

IN THE CLAIMS

11. (Amended) The method of claim 10, wherein:

- a2
- a) the assigning step comprises assigning, to each channel, those portions of the data signal that coincide with a recurring time window allocated to that channel;
  - b) the optical radiation at each of the coding wavelengths is provided in the form of a train of pulses;
  - c) each train of pulses corresponds to a recurring time window allocated to one of the channels; and
  - d) the respective wavelength associated with each of the channels is a wavelength of modulated radiation generated by said non-linear mixing.

13. (Amended) The method of claim 12, wherein the output radiation is generated by operating a voltage-tunable laser.

a3

14. (Amended) The method of claim 12, wherein the pattern of wavelength variation defines respective, recurring time windows during which data content is to be allocated to corresponding wavelength channels.

20. (Amended) The method of claim 15, wherein:

- a4
- a) the method further comprises optically demultiplexing the received signal, thereby to provide two or more single-channel optical signals;
  - b) the method further comprises detecting each of the single-channel signals, thereby to provide two or more single-channel electronic signals; and
  - c) the assembling step comprises electronically multiplexing the single-channel electronic signals.

25. (Amended) The optical communication system of claim 22, wherein:

a5

the data signal source is an electronic signal source;

the apportioning system comprises an electronic demultiplexer operative in response to the data signal to generate two or more distinct driver signals;

the apportioning system further comprises a respective optically emissive device operative in response to each driver signal to generate a corresponding optical signal in a distinct wavelength channel; and

the output element comprises an optical multiplexer operative to combine the respective optical signals and couple them into the transmission medium.

---